Killer Hardware Tips

Mobo Decisions & Hidden PVR Goodies

If you're a user who can't leave things alone if there's a chance you can make them better, even if it means bucking the norm, read on. We have some tips and tricks that just might make you more productive.

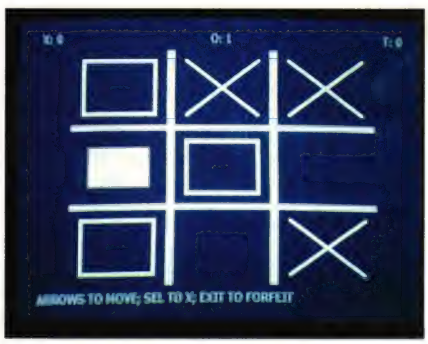
Your PVR Has A Secret

Easter eggs—messages, games, tricks, and other goodies hidden in computer software—have been around since the 1970s. Sometimes Easter eggs are simple, such as a message from a programmer. Other times, the egg is a hidden debugging tool or elaborate feature that was removed from the official version for one reason or another. Secret features in firmware are increasingly common, too, such as the iPod's hidden Breakout game.

But do you know about the goodies hiding within your personal video recorder? Your ReplayTV or TiVo is brimming with hidden tricks and features—you just have to get to them.

ReplayTV has a 30-second skip button, which makes it easy to zip past commercials. TiVo also has a 30-second skip feature—if you know how to activate it. A Web site at www.bigmarv.net/how/tivo30secondskip.html describes how to do it. Essentially, while you're watching a recorded program, enter the following sequence on the remote control: Select, Play, Select, 30, and Select. From then on (unless you need to reboot), the ->| button on the remote will give you a half-minute jump.

Other hidden features include the ability to view TiVo's log files (use the Clear, Enter, Clear, and then Thumbs-Up sequence) and view "hidden" recordings and scheduled program suggestions (use the Thumbs Down, Thumbs Down, Thumbs Up, and Instant Replay sequence). You can find many more TiVo codes in the Hacking The TiVo FAQ Index at www.tivofaq.com/hack/faq.html and the Underground Playground section of the TiVo Community Forum at www.tivocommunity.com/tivo-vb.



Do you want to play a game? Your ReplayTV does, if you know how to ask.

With ReplayTV, pressing 243 and then Zones on the remote control reveals a utilities menu where you can force an update of the programming guide or check the amount of free memory. This menu is also the home to a text box, cryptically known as the "claw foot portal."

The claw foot portal is a window that gives you access to several fun features. For example, you can enter "MODESTO GIRL" to change the ReplayTV's red Program Record dots to hearts. Enter "TIC TAC TOE" in the claw foot portal to enable a familiar, mind-numbing game, and then press 111-Zones to play. (Some ReplayTV models offer other simple games, too.)

Some useful features include entering SHOWGUARD ON in some models into the text field, which enables a padding feature that can prevent you from missing the last minutes of your favorite program if the network should be off schedule. These and other hidden features are documented at www.replaytvfaq.com.

By the way, the first Easter egg is generally credited to Warren Robinett, the creator of the Atari VCS game Adventure. Annoyed that Atari didn't give credit to the game's programmers, Robinett built a secret room in the game that showed his name in bright letters.

Sometimes Less Is More

The first step in building or upgrading a PC just might be the most fun. It's the step where you agonize over the components to put in or upgrade your PC with. With the perfect motherboard, processor, video card, sound card, and other components, system builders can tune a PC according to their exacting specifications.

But more often, DIY PC builders are finding many new motherboards have built-in video, audio, and Ethernet ports, which sometimes conflict with the add-on cards the builder has painstakingly chosen.

Using integrated video and audio has been a popular approach on value-segment OEM computers (marketing speak for "inexpensive, prebuilt PCs") for years. Using such motherboards means PC manufacturers need to buy fewer components, thus saving money. An onboard sound chip adds about $2 to the cost of a motherboard "for sound of the same quality as a $30 to $40 sound card," says Andy Tung, MSI senior product manager. Of course, an integrated chip won't touch the quality of a high-end sound card, which Tung estimates only 5% of customers want.

Most Popular Mobos

The most popular motherboards with and without integrated video and audio, according to various motherboard manufacturers, include:

Built-in audio and video:

Intel: EPoX EP-4G4A+, SOYO 7VEM Pro, and Tyan's Tomcat i845GL S2098, Trinity i845E S2099, and Tiger 200T S2505T

AMD: EPoX EP8RGA+, MSI MS-6378X and MS-6390, and SOYO K7VEM Pro

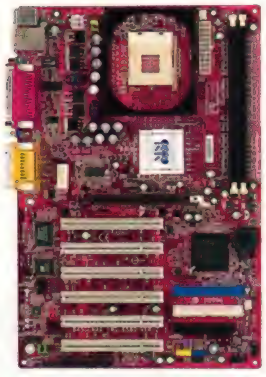
Without built-in audio and video:

Intel: EPoX EP-4PEA+ (6-channel sound only), SOYO P4I845PE (sound and LAN only), and Tyan Tiger 230T S2507T

AMD: EPoX EP-8RDA+ and EP8K9AI (6-channel sound only); MSI KT3V, KT4V, and K7N2; SOYO KT400 Dragon Ultra Platinum Edition; and Tyan Tiger MPX S2466

It's apparent that all-in-one motherboards aren't going away. Because of their popularity with OEMs, sales of integrated motherboards already outstrip standalone models. MSI expects a 5% increase in integrated motherboard sales relative to standalone boards this year.

Built-in video/audio functions are generally designed to be good enough to meet the needs of average users, but this usually does not satisfy the exacting needs of high-performance aficionados. "For generic users who use the computer at home, just playing some games or using office applications, do they really need a very powerful video card and very high quality sound card? Onboard video and onboard audio will be good enough for them," says Tung. For example, integrated audio typically includes 2-channel sound or even 5.1-channel sound, but no support for environmental effects.



Motherboards that have built-in audio and video, like this one, free up slots but don't provide the performance of high-end add-on cards. Mobo manufacturers say boards with integrated components will only continue to become more prevalent, however.

What's a power user to do? Picking a motherboard without integrated video, audio, and Ethernet is the obvious answer. But even if you choose a motherboard without built-in video, you may still run into integrated sound and Ethernet. The majority of motherboards sold today include at least built-in sound, and many add an Ethernet port, too.

"VAR [value added resellers] channels are asking for motherboards with integrated audio and networking. Network cards aren't all that expensive but having those features onboard makes things easier and cheaper. When these customers are reselling to corporations, government, schools, and the military, they want to keep these things rock solid," says Vivian Lien, SOYO's marketing manager.

If your prospective board has some of these features, make sure you can disable them. Also make sure the mobo is compatible with your chosen video and sound cards when the integrated functions are disabled.

Disabling a mobo's built-in video/audio is generally done via the BIOS, although some use jumpers instead. Some boards automatically disable onboard video when a video card is plugged into the AGP slot.

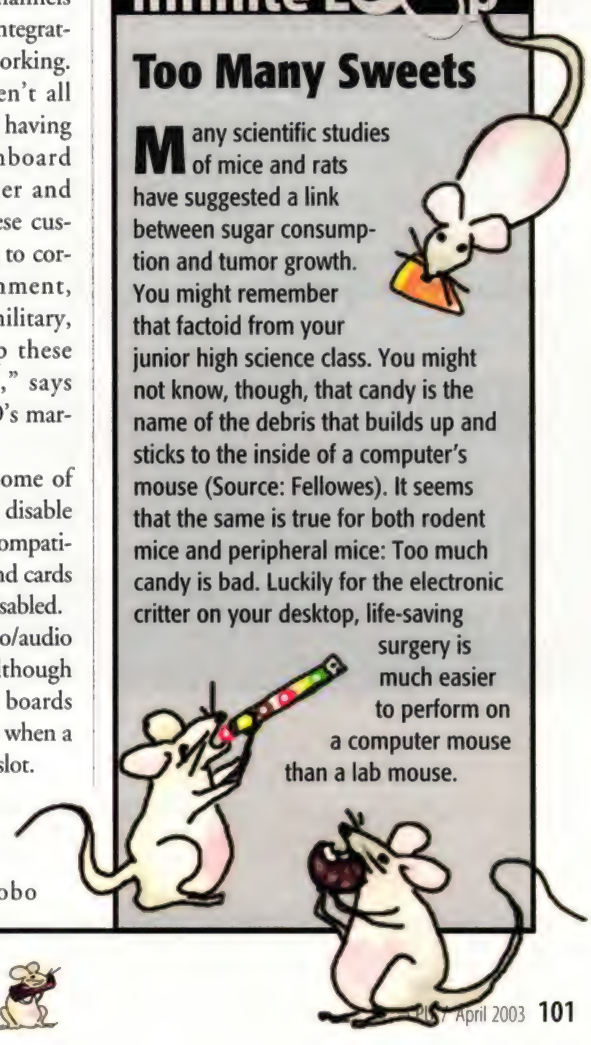
Once disabled, the motherboard should defer to the add-on card for sound or video. If there's still a conflict, the mobo manufacturer's Web site may have a firmware upgrade to resolve the issue.

As a last resort, you can disable onboard video and audio at the operating system level, such as in Windows' Device Manager. Then switch to a standard VGA or sound driver, shut down, and install the new card. This should disable the onboard functionality, but it may not free those resources for other uses.

What does the future hold for integrated mobo components? Motherboard manufacturers agree that integrated A/V functions will become even more prevalent. But manufacturers understand that some users prefer to add their own upgrade cards, so we're likely to always have at least some nonintegrated models to choose from. At minimum, the ability to disable onboard output will remain. CPU

by Kevin Savetz

Infinite Loop

Too Many Sweets

Many scientific studies of mice and rats have suggested a link between sugar consumption and tumor growth. You might remember that factoid from your junior high science class. You might not know, though, that candy is the name of the debris that builds up and sticks to the inside of a computer's mouse (Source: Fellowes). It seems that the same is true for both rodent mice and peripheral mice: Too much candy is bad. Luckily for the electronic critter on your desktop, life-saving surgery is much easier to perform on a computer mouse than a lab mouse.